

### Training Roundhouse Kick

From my experience in training, studying, and teaching, an optimal mawashi geri (roundhouse kick) fully utilizes hip torque by springing the full kinetic chain involved into motion, therefore generating momentum along the axis of rotation. (In this case, the body's vertical centerline.) This torque whips all the way through to the instep, shin, or ball of the foot, which is unloaded from the kicking leg at the optimal time. The tension provides potential energy in a way similar to that of the windup for a baseball pitch. Study up on the phrase "amortization phase".

The hip flexors are heavily used in kicking, and create a great degree of torque. The hip twist itself in mawashi geri is the key component, with the rest of the kinetic chain involved in the kick having to synergize with this motion, and the involved muscles of the leg (quadriceps complex, anterior tibialis etc).

Biomechanics of kicking – chapter 37 in Exercise and Sport Science:  
<http://goo.gl/6XtuSz>

A common trouble with developing a powerful hip activation for mawashi geri using the lead leg is the tendency to lean backwards too far, too easily. This is because the front leg often carries a lot of weight. Most karate stylists carry a bit of a forward fighting stance (60 to 70% of body weight on the front leg). For kicking, I usually recommend a kickboxing stance.

Also, what I have found to help is to train 5 separate things:

Kinetic chain training. Stand in mawashi geri chamber beside a mounted makiwara at a height which you can kick. Slowly "uncork" the kick, tag it with the instep (not too hard, though, that is not the point right now) and slowly reload it. Do not put your leg down! Keep the leg up, in chamber, very slowly kick, tag, very slowly rechamber, repeat, until you're cramping up, then do the same for the other leg. Even more important is paying attention to every little part of each kick, even where your hands are and how your body is instinctively stabilizing.

Mobility work, and especially, L-sit training. You can use pushup handles or chairs instead of parallel bars / parallettes if you do not have those available to you. You can do them on your hands once you're comfortable enough with them.

L-Sit Progressions - <http://goo.gl/5he3Y4>

Hanging leg raises - <http://goo.gl/41E0OE>

Multi level kicks with the lead leg, using different setups, to striking pads, once you have drilled the kinetic chain deeply a few times.

Lunges – look into how wrestlers, American style football players, and sprinters do them.